

CLAIMS

1) A device for dissolving a solid chemical substance (10) with water so as to obtain an aqueous solution; the device comprising a container (2), which
5 has a collecting portion (6) for containing the aqueous solution, and a loading chamber (9), which is set above the collecting portion (6), is designed to contain the solid chemical substance (10) and is provided with supporting means (11), designed to support the solid
10 chemical substance (10), and water-dispersion means (18) for directing at least one first jet of water on said solid chemical substance (10); the device (1) being characterized in that the water-dispersion means (18) are arranged within the loading chamber (9) above
15 the supporting means (11) and are designed to direct the first jet of water only laterally and/or downwards so as to wet the solid chemical substance (10) set at the bottom and/or laterally with respect to the water-dispersion means (18) themselves.

20 2) The device according to Claim 1, in which the loading chamber (9) has a dissolving portion (16) where, in use, the solid chemical substance (10) is dissolved by the first jet of water, and a storage portion (17), which is set above the dissolving portion
25 (16) and is designed to contain the solid chemical

substance (10) above the dissolving portion (16) itself; the dissolving portion (16) having a top end; the water-dispersion means (18) being arranged in the loading chamber (9) at the top end of the dissolving
5 portion (16).

3) The device according to Claim 1 or Claim 2, in which the loading chamber (9) comprises means for lateral containment (12), which are designed to support the solid chemical substance (10) laterally.

10 4) The device according to Claim 3, in which the lateral-containment means (12) are permeable to liquids.

5) The device according to any one of the preceding claims, in which said supporting means (11)
15 are permeable to liquids.

6) The device according to any one of the preceding claims, and comprising mixing means (8, 28) which are arranged in a position corresponding to the collecting portion (6) and are designed to maintain the
20 aqueous solution stirred.

7) The device according to Claim 6, in which said mixing means (8, 28) comprise spraying means (28) for emitting at least one second jet of water.

8) The device according to Claim 6 or Claim 7, in
25 which said mixing means (8, 28) comprise at least one

mechanical stirrer (8).

9) The device according to any one of the preceding claims, and comprising: supplying means (3) for supplying the water within the container (2);
5 drainage means (4) for supplying the aqueous solution from the container (2) outwards; and a control unit (37) for actuating the drainage means (4).

10) The device according to Claim 9, in which the drainage means (4) are designed to supply the aqueous
10 solution to an external circuit, in particular a swimming pool; the device comprising first concentration-sensing means (36) for detecting the concentration of solute in the aqueous solution of the external circuit; the control unit (37) being connected
15 to the first concentration-sensing means (36) and being designed to actuate the drainage means (4) so as to maintain the concentration of the chemical substance in the aqueous solution within the collector between a maximum concentration and a minimum concentration.

20 11) The device according to any one of the preceding claims, and comprising supplying means (3) for supplying the water to the container (2), drainage means (4) for taking the aqueous solution from the container (2), level-detection means (20) for detecting
25 the level of the aqueous solution within the collecting

portion (6), a control unit (37) for controlling the supplying means (3), which is connected to the level-detection means (20) so as to maintain the level of the aqueous solution within the container (2) substantially
5 between a maximum level and a minimum level.

12) The device according to Claim 11, and comprising a safety unit (22), which is connected to the control unit (37) and is designed to detect a safety level of the aqueous solution within the
10 collecting portion (6) and to arrest the supplying means (3) when the aqueous solution reaches said safety level; the safety level being higher than the maximum level.

13) The device according to Claim 11 or Claim 12,
15 and comprising sensor means (23a) designed to detect a level of arrest of the aqueous solution within said collecting portion (6); the level of arrest being lower than said minimum level; in use, when said sensor means (23a) detect said level of arrest, said drainage means
20 (4) being arrested.

14) The device according to any one of Claims 11 to 13, and comprising shielding means (38) for shielding said level-detection means (20) from the wave motion of the aqueous solution.

25 15) The device according to any one of Claims 11

to 14, and comprising second concentration-sensing means (36a), which are connected to the control unit (37) and are designed to detect the concentration within the collecting portion (6).

5 16) The device according to any one of the preceding claims, in which said water-dispersion means (18) comprise a spraying head (19).

17) The device according to any one of the preceding claims, and comprising an air valve (39) for
10 releasing the gases which develop during dissolution of said solid chemical substance (10) outside said container (2).

18) The device according to any one of the preceding claims, in which the container (2) comprises
15 an overflow pipe (TP), which is arranged above the collecting portion (6) and is designed to prevent the aqueous solution from overflowing from the container (2) itself.